"A STUDY TO ASSESS THE EFFECTIVENESS OF ACADEMIC INCLUSIVE EDUCATION MODULE IN IDENTIFICATION OF CHILDREN WITH LEARNING DISABILITIES AMONG SCHOOL TEACHERS IN SELECTED SCHOOLS AT CHENNAI."

A Synopsis

Submitted by

MURUGAPPAGOUNDER NITHYANANTHAM

Reg No: 4415031

Under the guidance of

Dr. N.Jaya, RN,RM,M.Sc(N), M.A, PhD.,(N),

Dean

Shenbagha College of Nursing, Mathiravadu, Chennai-77

In partial fulfillment for the requirement of the award of the degree of

Doctor of philosophy in Nursing.

At

FACULTY OF NURSING

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

(DEEMED TO BE UNIVERSITY)

CHENNAI-78, TAMILNADU, INDIA

JANUARY 2021

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
(DEEMED TO BE UNIVERSITY)
CHENNAI-78, TAMILNADU, INDIA

CERTIFICATE

This is to certify that synopsis of the thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF ACADEMIC INCLUSIVE EDUCATION MODULE IN IDENTIFICATION OF CHILDREN WITH LEARNING DISABILITIES AMONG SCHOOL TEACHERS IN SELECTED SCHOOLS AT CHENNAI."** submitted for the degree of Doctor of Philosophy in Nursing is a record of the original research done by **Murugappa Gounder Nithyanantham,(Reg No: 4415031)** Part time PhD Research Scholar in Nursing at Meenakshi University during the period of July 2015 to July 2019 under my supervision and guidance. Further the research work has not been submitted here or anywhere else for any other Degree, Diploma, Associate ship, Fellowship or Other similar titles.

Date : 3/3/2021
Place: Chennai.77.

Signature of the Research Guide
Prof. Dr.N.JAYA, M.Sc(N)., M.A., Ph.D.,
DEAN
SHENBAGHA COLLEGE OF NURSING
Mathiravadu, Chennai-600 077.

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
(DEEMED TO BE UNIVERSITY)
CHENNAI-78, TAMILNADU, INDIA

CERTIFICATE

This is to certify that synopsis of the thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF ACADEMIC INCLUSIVE EDUCATION MODULE IN IDENTIFICATION OF CHILDREN WITH LEARNING DISABILITIES AMONG SCHOOL TEACHERS IN SELECTED SCHOOLS AT CHENNAI."** submitted for the degree of Doctor of Philosophy in Nursing is a record of the original research done by **Murugappa Gounder Nithyanantham,(Reg No: 4415031)** Part time PhD Research Scholar in Nursing at Meenakshi University during the period of July 2015 to July 2019 under my supervision and guidance. Further the research work has not been submitted here or anywhere else for any other Degree, Diploma, Associate ship, Fellowship or Other similar titles.

Dr.NAPPINNAI
PSYCHOLOGIST

Date : 3/3/2021

Signature of the Internal- Guide

Place: Chennai.

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
(DEEMED TO BE UNIVERSITY)
CHENNAI-78, TAMILNADU, INDIA

CERTIFICATE

I Declare that synopsis of the thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF ACADEMIC INCLUSIVE EDUCATION MODULE IN IDENTIFICATION OF CHILDREN WITH LEARNING DISABILITIES AMONG SCHOOL TEACHERS IN SELECTED SCHOOLS AT CHENNAI."** submitted for the degree of Doctor of Philosophy in Nursing is a bonafide research work done by **Murugappa Gounder Nithyanantham,(Reg No: 4415031)** Part time PhD Research Scholar in Nursing at Meenakshi University during the period of July 2015 to July 2019. I further declare that to the best of my knowledge the thesis does not contain any part of work which has been submitted for the award of any degree either in this university or in any other university.

M. Nithyanantham

Murugappa Gounder Nithyanantham
PhD Research Scholar (Nursing).

Date:

Place: Chennai.

CONTENTS

Chapter	Contents	Page No
I	**INTRODUCTION**	
1.1	Background of the study	**1**
1.2	Significance and Need for the Study	**2**
1.3	Statement of the Problem	**5**
1.4	Objectives of the Study	**5**
1.5	Operational definitions	**5**
1.6	Hypotheses	**6**
1.7	Assumptions	**6**
1.8	Delimitations	**6**
II	**REVIEW OF LITERATURE**	
	Literature related to Prevalence of learning disabilities	**7**
	Literature related to dyslexia and learning disabilities	**8**
	Literature related to effectiveness of academic inclusive education module.	**9**
	Conceptual framework	**10**
III	**METHODOLOGY**	
3.1	Research Approach	**11**
3.2	Research Design	**11**
3.3	Variables	**12**
3.4	Research Setting	**12**
3.5	Population	**12**
3.6	Sample collection criteria	**13**
3.7	Sample and Sample Size	**13**
3.8	Sampling technique	**13**
3.9	Tool for sample collection	**14**

3.10	Content validity	**15**
3.11	Reliability of the tool	**16**
3.12	Ethical consideration	**16**
3.13	Pilot study	**16**
3.14	Data Collection Procedure	**17**
3.15	Plan for Date Analysis	**17**
IV	**ANALYSIS AND INTERPRETATION**	**18**
V	**SUMMARY, NURSING IMPLICATION, RECOMMENDATION, AND CONCLUSION.**	**24**
VI	**REFERENCES**	**30**

CHAPTER –I

INTRODUCTION

Education is a fundamental right of each child of our country. Education plays a major role which brings amazing changes to society. Education helps in modification and advancement in every child thereby builds a healthy and wise nation. The basic need is education is the rights of every child in the country. 100% literacy is our ultimate goal, which is yet to be attained. In India, about 80 million schools enrolled with 150 million students, in which primary level classes between I to VIII standard and secondary level comprises classes from 9 to 12 standards. (Valliappan 2020) "Education for all" remains not reachable and not available for a child with learning disabilities, even more, remote in India. (Kumar, Suman 2017). Mahatma Gandhi says "Education means all-round drawing out of the most excellent in child and leads, intellect and strength of mind." Only a proficient and appreciative competence-based teacher can easily elicit innate capacities, potency, and limitations inborn in each student. (Bahvya et al 2015).

Learning is widely considered the course of action to gain new wide knowledge, behaviors, abilities, skills, values. During childhood prefers comprehension and can acquire the synthesis, distinct kinds of data (Adebowle et al 2018). Every child's growth and development, first to comprehend and speaking mother tongue and learn to talk. They become learn to read, write and perform arithmetic according to their age group and intellectual ability during their childhood. Education plays a significant role in every child's life. But the quality of education they acquire is likely to have an even higher and longer-lasting effect among learning disabled school children. (Howlinn.2002).

School is one of the most organized and powerful functioning systems in a society which renders an opportunity to work through it and influence for acquiring indispensable knowledge to develop skills and attitude for those who come in contact with it. Children with learning disabilities can face unique challenges that are often pervasive throughout their lifespan. (Sadaket.2018). Oswald Berkhan identified this disorder with particular difficulties in 1881, (Berkhan.1917). Rudolf Berlin an ophthalmologist in Stuttgart Germany invented the 'word' dyslexia' in 1887. Bateman and Samuel

Krick 1963 were often referred to as the founder of the term. (Rutter.1985). Previously known as dyslexia or learning disabilities; now as per DSM V classification it is labeled as Specific Learning Disorder (SLD),(DSM-V,2013) described as learning and academic skill problems.

The genetic basis of dyslexia has also been identified. Various prenatal factors, like low birth weight (LBW) and stress, can indirectly affect attention, leading to attention deficit hyperactivity disorder (ADHD), a common co-morbidity with learning disabilities. (King2005). The social dimension of the problem argues that a complete lack of parental surveillance of homework, too much parental importance on grades secured by students, over and under guidance by parents was found to be related to an extrinsic motivational orientation and lower academic performance. (Bins burg and Bronstein, 2018).

SIGNIFICANCE OF STUDY

There is some more evidence of the effect of inclusive education to the child with learning disabilities, as there is a paucity of research in this area. This study will add evidence to practice academic inclusive education modules to improve the abilities of teachers, who can in turn on identification, and implement the strategies among the children who are the future pillars of the nation.

The **Academic Inclusive Education Module** is one of the effective strategies and solutions for the problems of teaching and learning. It will aid in the identification of school children with learning disabilities and improve on reading, writing, and arithmetic calculations. The teachers may adopt inclusive education modalities on identification and enhance learning disabilities.

The researcher is interested in this study, as he is personally interested and experienced and implemented these strategies when he underwent training in learning disabilities, which was also welcomed by the teachers and they requested to incorporate these strategies regularly as a part of the teaching and learning process. Therefore the researcher has designed this study to assess the effectiveness of an academic inclusive education module in the identification of children with learning disabilities among school teachers in selected schools.

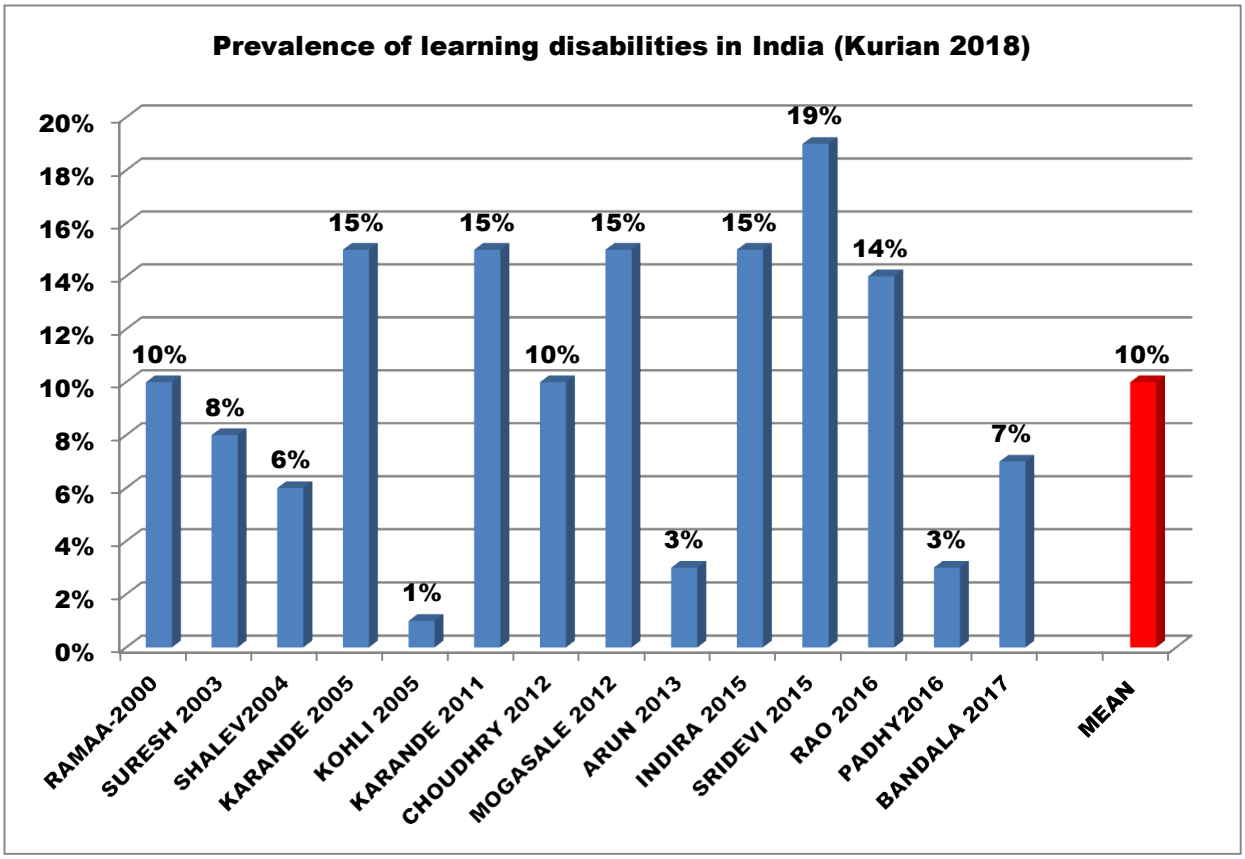
NEED FOR THE STUDY:

A learning difficulty is manifested by significant difficulties for listening, speaking, reading writing, reasoning, and mathematical calculations. These facts are frequently observed during the scholastic period of the children, leading them to indiscipline, because lack of comprehension of scholastic activities is often considered by the school as voluntary acts, which foresees academic failure. **(**Silver et al 2018).

According to (Salles 2017), the classroom is a natural context for evaluating the written language, comprehension and solving mathematical problems of children, besides allowing continuous and longitudinal analyses of their progress. The role of researcher with teacher provides great importance for the teaching practice.

In India, prevalence of learning disabilities rate ranging between 3-10 % among school students. Age between 12 to 18 years old school students, has specific learning disability is 1.58%. The reading disability in school children varied from 5.3% to 11.8%. Reading disability was clearly more frequent in boys than in girls (Johnson2017).

In India, school going children 5 – 15% had learning disabilities. The incidence of dyslexia has been reported to be 2-18%, dysgraphia 14%, and dyscalculia 5.5% among in primary school children. There are significant gender differences: boys are more often affected in developmental dyslexia than girls. However, in developmental dyscalculia and language difficulties, there are no noticeable differences. Considering Indian scenario, information about SLD is sparse. (Singh2017).



In India, 90 million people with varying degrees of learning disabilities. In this prevalence was reported to be 3% - 10% among student population, in which average class in school has about 5 students with learning disabilities. Many teachers in regular mainstream schools have limited knowledge of learning disabilities (Vranda 2015).

In Chennai, a cross sectional study revealed that students from classes 2 to 6 around 16 % to 20 % of children in city schools have learning disabilities. (Ramya 2014). 10% of the children present with learning disabilities. Prevalence rate of learning disabilities between 9% to 39% and incidence of dyslexia among primary school children has been reported to be 2% - 18%. An effective education is important for individual progression as well as yield a capable workforce and citizenry for our country. During teacher training imparting inclusive education for trainees is regarded as a cornerstone of their development (Kalyani2020).

Hence researcher needs that imparting the knowledge of learning disabilities among school teachers through inclusion education will be a pivotal in identification and improving children with learning disabilities from Greater Chennai Corporation schools, in Chennai.

STATEMENT OF THE PROBLEM

"A study to assess the effectiveness of academic inclusive education module in the identification of children with learning disabilities among school teachers in selected schools at Chennai."

OBJECTIVES:

1. To assess the knowledge level of learning disabilities among school teachers in study group and control group.
2. To evaluate the effectiveness of the academic inclusive education module among study group and control group of school teachers.
3. To correlate the level of knowledge of learning disabilities among school teachers in the identification of children with learning disabilities in study group and control group.
4. To associate the mean scores on knowledge of learning disabilities among school teachers with their selected demographic variables.

OPERATIONAL DEFINITIONS

- **Effectiveness:** It refers to the improved knowledge level of teachers by academic inclusive education module among school children regarding on identification of learning disabilities by teachers.
- **Academic Inclusive education module:** It refers to constructed and modified information of learning disabilities. Lesson plan with a definition, incidence, problems, cause, types, myths, common features, inclusive education, political context, components, steps, approaches, learning styles inventory, teaching style, tips, teaching plan principles, lesson design, guidelines, universal design, techniques to improve reading, speaking, writing, solving mathematics problems.
- **Knowledge:** It refers to the understanding and existing knowledge of the school teachers on the identification of learning disabilities, including the concept and definition aspect, the incidence and prevalence of finding cause and classification, clinical manifestations, evaluation approaches, interventions, and their outcome, which is assessed by **Knowledge questionnaire on Learning Disabilities.**

- **School teachers**: It refers to the teachers who are teaching the students of 6th standard having minimum of three years of teaching experience at selected school at Chennai.
- **Selected school children**: It refers to children studying 6th standard with poor academic achievement like word blindness, difficulty in written expression, and fine motor skills which interpret auditory and visual information and IQ > 50%, which is evaluated by **Raven's Coloured Progressive Matrices**.
- **Learning disabilities**: it refers to the less in listening, thinking, speaking, reading, writing of English language and mathematics computing which is measured by **NIMHANS index for SLD**.
- **Selected school:** It refers to the Greater Chennai Corporation/ Government schools.

HYPOTHESIS

- **H_1 -** There is a significant correlation between the pre-test and post-test knowledge scores of learning disabilities among study and control group.
- **H_2 -** There is a significant difference in the pre-test and post-test level of knowledge in the identification of learning disabilities in children among the study and control group.
- **H_3 -** There is a significant association between knowledge level of learning disabilities and identification of children with learning disabilities.

ASSUMPTIONS:

The study is based on following assumptions:

- Selected school teachers may have insufficient knowledge of learning disabilities in identification and management of school children with learning difficulties.
- The academic inclusive education module may enhance the teaching skills of teachers among selected school children.

DELIMITATIONS:

- The data collection period was limited to two years.
- The study was limited to teachers who are teaching in selected schools, Chennai.
- The study was limited to teachers aged between 25 to 45 years.

CHAPTER –II

REVIEW OF LITERATURE

The review of related literature throws light on the nature of work done in this area. It helped the Investigator to delimit and define her problems. It also brings the Investigator up to date on the work which others have done and thus to state the identification of the objectives and concisely. "The review of related literature is a forerunner for the research worker and shows the way through which the newcomer should proceed.

- **2.1 Studies related to prevalence of learning disabilities.**
- **2.2 Studies related to dyslexia and learning disabilities.**
    - **2.2.1 Awareness of dyslexia among teachers.**
    - **2.2.2 Knowledge and attitude of learning disabilities among teachers.**
    - **2.2.3 Learning disabilities.**
    - **2.2.4 Knowledge and attitude of teacher's on learning disabilities.**
- **2.3 Studies related to effectiveness of academic inclusive education module.**

Studies related to prevalence of learning disabilities.

The prevalence of learning disabilities was identified by **Kumar, Suman 2017** conducted among 5th class children from five schools in Kurukshetra and Jind districts of Haryana. A formal and informal tool for English and mathematics was used by teachers/parents, Raven's progressive matrices to assess intelligence and learning Disability diagnosed by Swaroop and Mehta 2005, found that the prevalence of learning disability varies from 10.76 % to 13.41 % with a mean % of 12.31.

Studies related to Dyslexia and learning disabilities.

A clinical study conducted to evaluate the clinical and academic profile **by Sahu, Bhargava, Sagar, Mehta (2018)** among a mixed type of 30 children age between 7 to12 years with a diagnosis of SLD-mixed type with SLD, were assessed by a specifically designed structured pro forma as clinical details (i.e., nature of birth, developmental milestones, and co morbidities) and academic history (i.e., history of failure, promoted in next class, repetition in the class, school change, etc.) and SLD-comprehensive

battery. The study found that the mean age of the participants was 9.6 years (standard deviation [SD] = 1.5). 76.7% of participants were male and their mean years of education was 4.7 (SD = 1.5). 30% of children with a history of delayed developmental milestones in aspects of speech (16.7%), walking (6.7%), and in speech and walking (6.7%), 23% of children had co-morbid conditions of attention-deficit/hyperactivity disorder/attention-deficit disorder. 30% of children repeated classes in their academic career.

Awareness of dyslexia among teachers

A awareness study investigated by **Khaliq, Ramzan & Aslam (2017)** among 20 elementary schools, N= 300 elementary school teachers, head teachers from Lahore on awareness of dyslexia, its identification, class management, and teacher's views about in and pre- services trainings of dyslexia. The findings revealed that standard deviation value of teachers were not aware of the term dyslexia (0.198), to identify (0.544) and manage it in their classrooms (0.367) and in service training was (0.496)... It proposes that teachers need awareness about dyslexia and in and need of pre- service education training to manage dyslexic learners in classrooms properly.

Knowledge and attitude of learning disabilities among teachers

A study to assessed the knowledge and attitude of primary school teachers regarding learning disabilities, conducted by **John (2017)** among 100 primary school teachers from Aurangabad, by purposive sampling method. It reveals that level of knowledge poor 10%, average 33% and good 57%. The attitude level of learning disabilities was positive 43.3%, neutral 36.2% and negative 20.5%. There was a significant association between years of experience with knowledge (X^2 =7.86) and previous knowledge regarding learning disabilities with attitude (X^2 =12.8).

Learning disabilities

A study conducted on Checklist to Screen Children with Reading Difficulty (CSRD) for Classroom Teachers **Joshi, Vanaja (2016)** among 113 children between 6-8 years in a three-phase. The first phase check list developed, in second administers among children by class teachers, and in third phase efficacy of efficacy of the checklist in identifying children at risk for reading difficulty was

investigated. Identification reading skills, a diagnostic test for identifying children with reading difficulty, was used to validate the results of the checklist. ROC curve was drawn; with a cut off scores of 42.5, area under the curve was 0.913 with 90% of sensitivity and 81% of specificity. The results reveal that the checklist will be a useful tool for screening the children with reading difficulties.

Knowledge and attitude of teacher's on learning disabilities.

A study to assess the knowledge and attitude among 50 school teachers by **Bhavya, Chinnu et al (2015)** as adopted a non probability convenient sampling in selected schools at Mangalore. Majority of teachers (58%) was in the age group of 20-30 years and teachers (86%) were females. Highest of them (62%) were with B.Ed qualification, and (48%) having 0-3 years of experience. Most of them (56%) were married and child inclusively in their curriculum. Majority of teachers (60%) are not attended in-service education on problems of learning. Majority of teachers (86%) are not having family history of learning disabilities and few of them (14%) has relatives with learning disability. Majority of teachers (64%) had average knowledge regarding specific learning disability. Most of teachers (94%) had a most favourable attitude.

Studies related to effectiveness of academic inclusive education module.

A pre experimental approach study conducted to assess the effectiveness of SIM on knowledge regarding identification of learning disability in school children among primary school teachers in selected schools of Bhopal by **Varghese and Issac (2018)**, among 30 school teachers. All participants are female teachers, 50% did not attended any classes related to identification of learning disability previously. The knowledge scores gained by the respondents in the results shows that mean value of knowledge in pretest was 7.6 and a posttest was 20.9. Paired “t” test result shows that obtained “t” value is greater than table value shows SIM was highly effective to improve the knowledge of primary school teachers regarding identification of learning disability.

2.4. CONCEPTUAL FRAMEWORK:

The conceptual framework for the present study was developed by the researcher based on Bertanlanffy's general system theory. Ludwig Von Bertanlanffy described this theory in the late l930s. According to this theory a system is a set of interrelated parts that comes together to form a whole. Real system is open and interacts with their environment and they can acquire qualitatively new properties. This theory describes how to break whole things into parts and then learn how the parts work together in a system.

In the present study the school teachers working in Greater Chennai Corporation / Government Schools are considered as an open system. Because they receive the information as academic inclusive education module from the environment, the system uses this input as identification of children with learning disabilities to maintain homeostasis.

The final part of the feedback is communicating what is found in the evaluation and it reveals whether the academic inclusive education module was effective in enhancing the knowledge of the selected school teachers and identifies learning disabilities among children.

CHAPTER III

RESEARCH METHODOLOGY

RESEARCH APPROACH: Experimental approach

RESEARCH DESIGN: is a blue print for conducting study: maximizes control over factors that could interfere with the validity of findings guides the planning and implementation of a study in a way that is most likely to achieve the intended goal. (Suresh K.Sharma 2014)

3.3.RESEARCH DESIGN: Non equivalent control group design: is identical to pre test – post test control group design, except that there is no random assignment of subjects in study group and control groups.

In this design study and control groups are selected without randomization and dependent variables are observed in study group as well as control groups before intervention (. Sharma 2014).

		Pre test – O_1	**Intervention - X**	**Post test –O_2**
Non Randomization	Study Group	Assess the pre test level of learning disability among school teachers of children with learning disabilities.	Academic inclusive education module in identification children with learning disabilities..	Assess the post test level of learning disability among school teachers of children with learning disabilities.
	Control Group		Routine care	

Phase I: A descriptive research design was used to identify the existing level of knowledge of teachers of study group and control group through knowledge questionnaire on learning disabilities scale.

Phase II: A Non Equivalent Control Group design was used to assess the academic inclusive education module in raising knowledge level among teachers in study group and control group.

$$O_1 X O_2$$

$$O_1 - O_2$$

O 1 – Pre test level of existing knowledge of teachers in study and control group through knowledge questionnaire on learning disabilities scale.

O 2 – Post test level of gained knowledge score of teachers in study and control group through knowledge questionnaire on learning disabilities scale.

X – Intervention - Academic inclusive education module.

VARIABLES :

Dependent variables:

Knowledge level of learning disabilities among school teachers on identification of children with learning disabilities.

Independent variables:

Academic inclusive education module. (Lesson plan – Teaching and demonstration)

Attributed variables

Demographic variables of teachers such as age, gender, nature of the school, academic qualification, professional qualification, medium of teaching, handling of classes, years of experience in teaching, teaching of subjects, does school has counselor, and number of learning disability students identified in the class.

SETTING OF THE STUDY:

The study conducted in a selected 6 Greater Chennai Corporation schools (3 schools - study group and 3 schools - control group).

STUDY POPULATION:

Target population:

The teachers taking classes for 6^{th} standard, from Greater Chennai Corporation schools.

Accessible population:

The teachers taking classes to 6^{th} standard in Greater Chennai Corporation schools, who fulfill the inclusion criteria,

SAMPLE SIZE ESTIMATION

The sample size calculation was undertaken with the help of online before after sample size calculator. The sample size was calculated based on the previous findings. They were type 1 error α= 0.01, β= 0.20, effect sixe = 1.0 and standard deviation= 4.0. Sample size was calculated using pilot study knowledge score of 56%. After intervention, teachers are expected to gain 20% more knowledge score than the control group. With power analysis of the study 90% (β = 10%) and confidence of result 95% (type 1 error α = 5%) and 5% of dropout rate, a total of 240teachers (120 study + 120 control) were included in this study. A sample size of 240 teachers who met the inclusion criteria was chosen for this study, 120 for control group and 120 for experimental group.

Sample size was calculated using previous study on prevalence of SLD among students (p) = 10.76%with acceptable error of 2.1% and 95% confidence interval (CI) of estimate using the formula. Minimum we need to screen837students. Taken schools available children are 852, so all these children are taken for screening.

SAMPLE SIZE:

- 120 samples of study group and 120 samples of control group.
- 72 Children with learning disabilities were identified by teachers.

SAMPLING TECHNIQUES:

- Non randomization sampling techniques

CRITERIA FOR SAMPLE SELECTION:

Inclusive criteria:

Teachers who is:

- Taking classes for 6th standard.
- Within the age group of 25 to 45 years.
- Experience above 3 to 15 years.
- Willing to participate in the study.

Exclusive criteria:

For teachers:

- Not present at the time of data collection period.
- Already exposed to learning disabilities program.
- Is trained in special educator program.

TOOL FOR DATA COLLECTION:

The present study was based on evaluating the effectiveness of academic inclusive education module among children in selected schools in Chennai. So, the data collection tools were developed through an extensive review of literature in consultation with the research experts and faculty. In this study, to assess the effectiveness of academic inclusive education module, the following tools were used.

For Teachers:

- ❖ Demographic variables of teachers.
- ❖ Knowledge questionnaire on learning disabilities

For Students:

- ❖ Demographic variables of students.
- ❖ Raven's coloured progressive matrices used to assess the IQ level of students.
- ❖ NIMHANS index for SLD used to assess the learning disabilities among school children.

Section A: Demographic variables of school teachers:

Demographic variables such as teachers such as age, gender, nature of the school, academic qualification, professional qualification, medium of teaching, handling of classes, years of experience in teaching, teaching of subjects, availability of the counselor, and number of learning disability students identified in present class.

Section B: Knowledge questionnaire on learning disabilities:

Structured questionnaire (40 Nos.) was developed by Dr. K. Lalitha and Padmavathy was used to assess the knowledge level of teachers regarding learning disabilities. It has seven dimensions like

concept and definition has (4Nos.) of questions, incidence and prevalence has (3Nos.) of questions, causes and classification has (3Nos.) of questions, clinical manifestation has (13Nos.) of questions, approaches to assessment has (5Nos.) of questions, regarding intervention has (10Nos.) of questions, and outcome has (2Nos.) of questions, totally it comprised has (40Nos.) of questions. Each correct response carries one mark and wrong answer carries zero (0). Maximum score 40 and minimum score zero (0).

Criteria for knowledge scores:

1	Good knowledge	>75%
2	Average knowledge	50-75%
3	Poor knowledge	<50%

RELIABILITY:

To check the reliability Guttmann Split half method was used to establish the tool reflected a Cronbach alpha value of 0.704 which is good, as indicated by Kline (1986).

VALIDITY:

The validity of the tool was assessed by seven experts includes psychiatrist, psychologist, and mental health nursing, who works at NIMHANS, Bangalore.

Section D: Demographic variables of school students:

Demographic variables of school children includes age, gender, education, parent's educational qualification, and occupation status, family income, time spend with children and recreational activity.

Section E: Raven's coloured progressive matrices:

The Raven's coloured progressive matrices or RPM was developed by C. John Raven Back in 1936, is the leading global non verbal measure of mental ability (IQ). It measures clear thinking ability for children ages 5- 11 years. It has picture with a one part is missing or cut that will shown 3

cut edges in two rows. It has 3 three parts as section A, AB and B sections, each set as 12 questions as 36 will be used to assess the IQ level of 6th studying students.

Scores is number of items answered correctly.

Maximum scores for each set = 12 Maximum total scores = 36

Level of IQ	Scores	Percentage
1. Intelligent super	33	95%
2. Intelligent	31	90%
3. Average in intellectually	29	75%
4. Intellectually average	28	50 %
5. Below average intellectual capacity	24	25%
6. Lower	21	10%
7. Intellectually defective	17	5 %

Reliability:

Analyses related with the internal consistency of the scale were carried out using the Colored Progressive Matrices Test total scores. The Cronbach alpha coefficient for the whole scale was determined as 0.83. Whereas, Spearman Brown two split-half correlation was determined is 0.80.

Section F: NIMHANS index for SLD:

The NIMHANS index for learning disabilities was developed in the Department of Clinical Inclusive logy, NIMHANS, Bangalore. It was initially developed by Kapur, John, Rozario and Oommen in the year 1991 to screen children with SLD. The NIMHANS Index for learning disabilities consists of tests of number cancellation ,reading, writing, spelling and arithmetic abilities, to identify children with disabilities in these areas. The reliability of the tool value is 0.53*** and its significance 0.001.

ETICAL CONSIDERATION:

The research and ethics committee of Madras Medical College, Chennai-03, approved the study objective, intervention and data collection procedure.

PILOT STUDY:

The pilot study was conducted to find out the reliability and feasibility of data collection tools which were to be used in the main study data collection. The pilot study indicated the feasibility and effectiveness of the study and the study instruments were found to be appropriate.

DATA COLLECTION PROCEDURE:

- The study conducted approval from the institutional ethics committee clearence and concern school authorities.
- Informed consent obtained from teachers who were willing to participate.
- Knowledge questionnaire on learning disabilities adopted to asses Pre test and Post test.
- Children assessed IQ level by adopting Ravens colured progressive matrices.
- The IQ level of 50% < of children assessed for learning disabilities through NIMHANS index for SLD tool.
- The Academic inclusive education module improve knowledge level of teachers on identification children with learning disabilities.
- Identified children with learning disabilities, enhanced on performing effective reading, writing and mathematical calculations.

S.No	Phase	Activity	Time
1	**I**	1. Pre test level of knowledge on learning disabilities among teachers. 2. Assessment of IQ level of children with learning disabilities by Ravens coloured progressive matrices 3. Pre assessment of children with learning disabilities level by NIMHANS index for SLD tool.	**30 minutes**
2	**II for 5 days**	Academic Inclusive module regarding learning disabilities.	**20-30 minutes/day**
3	**III**	Every fortnight identified children with learning disabilities, assessed for enhanced performances in effective reading, writing and mathematical calculations.	**15 minutes**
		1.Post test level of knowledge on learning disabilities among teachers. 2.Post assessment the children with learning disabilities level by NIMHANS index for SLD tool.	**10 minutes**

PLAN FOR DATA ANALYSIS: Descriptive (Frequency, Percentage, Mean, and Standard Deviation) and Inferential Statistics (t test, ANOVA test, and Chi Square and Correlation test- r) by using SPSS- 20.

CHAPTER IV

ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collected was analyzed according to the objectives of the study, tabulated and interpreted using descriptive and inferential statistics. Findings presented as follows

OBJECTIVES:

- To assess the knowledge level of learning disabilities among school teachers in study group and control group.
- To evaluate the effectiveness of the academic inclusive education module among study group and control group of school teachers.
- To correlate the level of knowledge of learning disabilities among school teachers in the identification of children with learning disabilities in study group and control group.
- To associate the mean differed scores on knowledge of learning disabilities among school teachers with their selected demographic variables.

Objective -1-To assess the knowledge level of learning disabilities among school teachers in study group and control group. **Table 1: TEACHERS DEMOGRAPHIC PROFILE**

Demographic variables		Group				Chi square test
		Study group(n=120)		Control (n=120)		
		n	%	n	%	
Age	25-30 years	22	18.33%	29	24.17%	$\chi2$=2.97 P=0.40 DF=3 (NS)
	31-35 years	26	21.67%	21	17.50%	
	36-40 years	37	30.83%	43	35.83%	
	41-45 years	35	29.17%	27	22.50%	
Gender	Male	44	36.67%	54	45.00%	$\chi2$=1.72 P=0.19 DF=1 (NS)
	Female	76	63.33%	66	55.00%	
Nature of school	Government	39	32.50%	41	34.17%	$\chi2$=1.66 P=0.44 DF=2 (NS)
	Corporation	81	67.33%	79	65.83%	
Qualification	Bachelor Degree	26	21.67%	32	26.67%	$\chi2$=0.96 P=0.81 DF=3 (NS)
	Master Degree	38	31.67%	38	31.67%	
	Degree with MPhil	47	39.16%	42	35.00%	
	Degree with Doctorate	9	7.50%	8	6.66%	
Professional qualification	Diploma in Teacher Education	38	31.67%	31	25.83%	$\chi2$=1.44 P=0.48 DF=2 (NS)
	Bachelor of Education	52	43.33%	52	43.34%	
	Master of Education	30	25.00%	37	30.83%	
Medium of teaching	Tamil	105	87.50%	109	90.83%	$\chi2$=0.15 P=0.69 DF=1 (NS)
	English	15	12.50%	11	09.16%	
Handling of Class	6th std	64	53.33%	61	50.83%	$\chi2$=0.76 P=0.85 DF=3 (NS)
	7th std	20	16.66%	26	21.67%	
	8th std	17	14.16%	16	13.33%	
	9th std	19	15.83%	17	14.16%	
Years of Experience in teaching	3 -5 years	17	14.17%	24	20.00%	$\chi2$=2.69 P=0.44 DF=3 (NS)
	6 -8years	36	30.00%	34	28.33%	
	9 -11years	39	32.50%	42	35.00%	
	12 -15years	28	23.33%	20	16.67%	
Teaching of Subjects	Tamil	18	15.00%	23	19.17%	$\chi2$=2.52 P=0.64 DF=4 (NS)
	English	17	14.17%	22	18.33%	
	Mathematics	32	26.67%	31	25.83%	
	Science	23	19.17%	22	18.33%	
	Social science	30	25.00%	22	18.33%	
Does the school has counselor	Yes	28	23.33%	30	25.00%	$\chi2$=0.09 P=0.76 DF=1 (NS)
	No	92	76.67%	90	75.00%	
No of LD students identified in present class	0 -1	65	90.27%	00	00.00	$\chi2$=0.00 P=1.00 DF=2 (NS)
	2 -3	5	06.94%	00	00.00	
	4 -5	02	02.77%	00	00.00	
	> 5	00	00.00%	00	00.00	

DF= Degrees of freedom NS= not significant P>0.05 not significant

Table 1 shows the demographic information of teachers those who are participated in this study; Similarity of demographic information distribution was assessed using chi square test.

Table -2- COMPARISON OF PRETEST AND POSTTEST LEVEL OF KNOWLEDGE SCORES

	Level	Pre-test (N=120)		Post-test (N=120)		Extended McNemar's test
		n	%	n	%	
Study group	Inadequate	48	40.0%	6	5.00%	**$\chi 2$=95.27 p=0.001***(S)**
	Moderate	72	60.0%	28	23.3%	
	Adequate	0	0.0%	92	71.7%	
Control	Inadequate	45	37.5%	39	32.5%	$\chi 2$=2.00 p=0.16(NS)
	Moderate	75	62.5%	81	67.5%	
	Adequate	0	0.0%	0	0.0%	

P<0.001*** very high significant

Table no.2 compares the level of knowledge scores between pre-test and post-test scores.

In Study group, *in pre-test, 40.0% of the teachers are having inadequate level of knowledge scores and 60.0% of them having moderate level of knowledge scores and none of them are having adequate scores. In post-test, none of the teachers are having inadequate level of knowledge scores, 23.3% of them having moderate level of knowledge scores, and 76.7% of them is having adequate level of knowledge scores.*

In control*, in pre-test, 37.5% of the teachers are having inadequate level of knowledge scores and 62.5 % of them having moderate level of knowledge scores and none of them are having adequate scores. In post-test, none of the teachers are having adequate level of knowledge scores, 67.5% of them having moderate level of knowledge scores, 32.5% of them are having adequate level of knowledge scores.*

In Study group*, statistically there is a significant difference between pre-test and post-test scores.*

In control group*, statistically there is no significant difference between pre-test and post-test scores. Pre-test and post-test knowledge scores were calculated using Extended McNemar's test.*

Objective -2 - To evaluate the effectiveness of the academic inclusive education module among school teachers in the study group and control group.

Table-3 -EFFECTIVENESS OF ACADEMIC INCLUSIVE EDUCATION MODULE AND GENERALIZATION OF KNOWLEDGE GAIN SCORES

		Maximum scores	Mean ±SD	% of mean scores	Post-test – Pre-test=mean gain scores with95%CI	% of knowledge gain scores with95%CI
Study group	Pre-test	40	21.60±3.56	54.0%	10.85(10.15 -1.54)	**27.1%(25.4- 28.9)**
	Post-test	40	32.45±2.29	81.1%		
Control group	Pre-test	40	22.05±3.01	55.1%	0.58(-0.05-0.87)	**1.5%(-0.13- 2.2)**
	Post-test	40	22.63±3.26	56.6%		

` Table no 3 shows the effectiveness of academic inclusive education module in the study group among school teachers in identification children with learning disabilities. On an average, among study group, teachers are gained27.1% of knowledge scores and it is expected to lie between 25.4% to 28.9% knowledge gain scores whereas in control, teachers are gained 1.50% of knowledge scores and it is expected to lie between -0.1% to 2.2 % knowledge gain scores.

Generalization of knowledge gain scores was calculated using mean with 95% confidence interval and percentage with 95% confidence interval. 27.1 % knowledge gain scores in Study group shows the effectiveness of academic inclusive education module on school teachers in identification children with learning disabilities.

Table 4: IDENTIFICATION OF CHILDREN WITH LEARNING DISABILITIES

Total children	LD children	% of LD children	Proportion with 95% CI
852	**72**	**8.45 %**	**8.45 %(6.76%- 10.51%)**

Identification of children with learning disabilities is found to be 8.45%. The male: female ratio in children with LD is 8:1, indicating male preponderance.

Table 5: DEMOGRAPHIC VARIABLES OF CHILDREN

Demographic variables		No. of children	%
Age	10 – 11 years	55	76.39%
	12 – 13 years	17	23.61%
Gender	Male	58	80.55%
	Female	14	19.44%
Education	6th standard	72	100.00%
Mother's education	Non formal	17	23.61%
	Primary	24	33.33%
	Higher secondary	20	27.78%
	Graduate	11	15.28%
Father's education	Non formal	18	25.00%
	Primary	20	27.78%
	Higher secondary	21	29.17%
	Graduate	13	18.06%
Mother's Occupation	Home maker	37	51.39%
	Coolly	15	20.83%
	Business	17	23.61%
	Government job	3	4.17%
Father's occupation	Coolly	25	34.72%
	Business	17	23.61%
	Government job	5	6.95%
	Others	25	34.72%
Family income	Rs.5000 – 10,000	33	45.83%
	Rs.10001 – 15,000	28	38.89%
	Rs.15001 – 20,000	11	15.28%
Time spend with Children	Below 1 hour	25	34.72%
	1 – 2 hours	27	37.50%
	2 – 3 hours	18	25.00%
	3 – 4 hours	2	2.78%
Recreational Activities	Watching TV	25	34.72%
	Playing Games	16	22.22%
	Listening music	21	29.17%
	Reading stories	10	13.89%

Table 6: CHILDREN WITH LEARNING DISABILITIES VARIABLES

N = 72

Clinical variables		No. of children	%
Learning disabilities of children	Reading	28	38.89%
	Writing	32	44.44%
	Mathematics	12	16.67%
Learning disabilities in reading	Reads word by word	15	20.83%
	Adds /Omits words	29	40.27%
	Spells out words	11	15.27%
	Guesses at words	17	23.61%
Learning disabilities in writing	No space between words	29	40.27%
	Missed out/ substitute a letter.	27	37.50%
	Reversed / added a letter.	7	9.72%
	Wrong capitals.	9	12.50%
Learning disabilities in numbers difficulty	Graded addition.	12	16.67%
	Graded subtraction.	18	25.00%
	Graded multiplication	18	25.00%
	Graded division.	24	33.33%
Learning disabilities in simple mathematical difficulty	Addition fractions.	7	9.72%
	Subtraction fractions.	9	12.50%
	Multiplication fractions.	29	40.27%
	Division	27	37.50%

Table 6 shows the clinical information of LD children those who are identified in this study

CHAPTER V

SUMMARY, NURSING IMPLICATIONS, RECOMMENDATION AND CONCLUSION

The study was conducted to determine the effectiveness of academic inclusive education module in identification of children with learning disabilities among school teachers in selected schools at Chennai. This is the currently most emerging and need for the nation.

MAJOR FINDINGS OF THE STUDY:

The description and homogeneity between the two groups namely control and experimental groups were compared depicts that most of the age group 36-40 (35.83%), majority of them were female (55%), nature of school is corporation (65.83%). Qualification degree with M.Phil (35%), professional qualification (43.34%), medium of teaching Tamil (90.83%), handling of class 6^{th} standard (50.83%), years of experience 9-11 years (35%) , and teaching of subjects mathematics (25.83%). With regards to other variables 75% of them had no school has counselor and no of children identified in the present class 0-1 is (90.27%). The demographic variables of both groups such as age, gender, nature of school, qualification, professional qualification, medium of teaching, handling of class, years of experience in teaching, teaching subjects, school has counselor and no of learning disabilities children identified in the present class between the two groups were not statistically significant (P>0.05). Hence the two groups were comparable and homogenous groups in respect of their demographic characteristics.

H_1 - There is a significant difference in the pre test and post test level of knowledge in identification of learning disabilities in children among the study and control group.

The pre-test level of knowledge scores of teachers in study group, 40.0% had inadequate level and 60.0% had moderate level of knowledge scores and none of them had adequate scores. In control group, 37.5% had inadequate level, 62.5% had moderate level and none of them are had adequate scores.

The comparing the post test level of knowledge scores of teachers in study group, 5.0% had inadequate level, 23.3% had moderate level and 71.7% had adequate scores. In control group, 32.5% had inadequate level, 67.5% had moderate level and none of them are had adequate scores.

In study group, statistically there is a significant difference between pre-test and post-test knowledge scores on learning disabilities. In control group, statistically there is no significant difference between pre-test and post-test knowledge scores on learning disabilities. **Hence the hypothesis is accepted.** ***In Study group, statistically there is a significant difference between pre-test and post-test scores, assessed by Mc Nemar's test -*** **$\chi 2 = 95.27$ p = 0.001***(S)**

H_2 - There is a significant correlation between the pre test and post test knowledge scores of learning disabilities among study and control group.

On an average, among study group, teachers are gained 27.1% of knowledge scores and it is expected to lie between 25.4% to 28.9% knowledge gain scores whereas in control group, teachers are gained 1.50% of knowledge scores and it is expected to lie between -0.1% to 2.2 % knowledge gain scores. **Hence the hypothesis is accepted. The Post-test – Pre-test=mean gain scores with 95% CI - 10.85 (10.15 -1.54). The percentage of knowledge gain scores with 95% Confidence Interval - 27.1% (25.4- 28.9).**

Generalization of knowledge gain scores was calculated using mean with 95% confidence interval and percentage with 95% confidence interval. 27.1 % knowledge gain scores in Study group shows the effectiveness of academic inclusive education module on school teachers in identification children with specific learning disabilities.

The demographic variables of children age group 10-11 years (76.39%), majority of them male (80.55%), 6^{th} standard (100%), mothers education primary school (33.33%), fathers education primary school (27.18%), mothers occupation home maker (51.33%), fathers occupation coolly and others both (34.72%), family income Rs 5000-10,000 (45.83%), time spend with children 1-2 hours 937.50%) and recreational activities watching TV (34.72%).

Children with learning disabilities variables were reading (38.89%), writing (44.44%) and mathematics (16.67%). Reading problem adds/ omits words (40.27%), writing problem is no space

between words (40.27%), and number difficulty graded division and simple mathematical difficulty in multiple fractions (40.27%).

Identification of children with learning disabilities is found to be 8.45%. The male: female ratio in children with SLD is 8:1, indicating male preponderance. Hence the hypothesis is accepted. Association between Mathematics and NIMHANS INDEX of SLD gain scores and LD School children demographic variables were younger children, female children and more educated mothers children, home maker children, more hours spending with children are gained more NIMHANS INDEX of SLD scores than others..

IMPLICATIONS OF THE STUDY

The findings of the study have implications for nursing education, nursing practice, nursing research, and nursing administration.

Nursing education:

- Nursing curriculum has to focus to develop knowledge and skills in identifying children with learning disabilities.
- Nursing students educated with current need as children with learning disabilities in society and to become an effective school health nurse.
- This study emphasis the need to educate the nursing personnel through in-service or continuing education to update their knowledge and skills to educate school teachers and parents regarding knowledge on children with learning disabilities.
- Post graduate nursing student need to develop their skill in preparing inclusive education material.
- The nursing students in clinical practice, home visits, and school health programs can utilize the materials especially on inclusive education module, booklet, and pamphlet which are prepared in this study.

Nursing practice

- A changing scenario of health care delivery system in India, emphasis had shifted from care-oriented approach to preventive and promotive approach.
- Training program can be conducted for teachers regarding identification of other neuro developmental disorders such as autism, mental retardation, attention deficit hyperactive disorder, and behavioral problems.
- The study revealed that there is a need of knowledge on identification of children with learning disabilities among school teachers.

Nursing research:

- Research provides nurses credibility to influence decision making, policy and protocol formulation regarding identification of children with learning disabilities among school teachers.
- Findings of the study help to expand the body of professional knowledge upon which further research can be conducted.
- The study will be a valuable reference material for future investigators.

Nursing administration

- As administrator in both private and government sectors should take interest in motivating the nursing personnel to organize seminars, workshop, conference, and training program on identification of children with learning disabilities.
- The study will help to recognize the need for conducting awareness program on children with learning disabilities.
- Allocation of fund in budget in order to identify the learning disabilities of schoolchildren and to conduct health awareness program.

Limitations

- The study was limited to the selected Grater Chennai corporation schools.
- Small sample size.
- Limited period of time.

RECOMMENDATIONS FOR FURTHER STUDY:

- A similar study can be replicated on large samples to generalize findings.
- A comparative study can be conducted between urban and rural school teachers.
- A comparative study can be conducted between government and private school teachers.
- A comparative study can be conducted between regular and special educators.
- Replication of the study can be conducted by using other innovative teaching methods on identification of children with learning disabilities

5.4 CONCLUSION

The study concluded that teacher's role in identification of children with learning disabilities is current need and enhance of school children, who is a pillar to nation.

In India, especially attention to the special educational needs of children with learning disabilities had been recognizing recently. The new law formulated in the year 2016 guides the parents and teachers on learning disabilities. The SSA program which mandates education for all, also focuses on mainstreaming of children with learning disabilities.

In spite of provision of special concessions for children with disabilities, learning disabilities included, by the CBSE, it is a well-known fact that a majority of children with learning disabilities suffer a stigma as the schools fail to follow these. The crux of the situation lies on the lack of knowledge of the school authorities and the teachers regarding the entity of learning disability. Awareness of government provisions for children with LD is a farfetched idea.

In this study research scholar found that, the existing knowledge of school teachers on learning disabilities was inadequate and moderately adequate. Through inclusive education, teachers had gained adequate knowledge (71.7%) and moderate knowledge (23.3%) regarding identification of children with learning disabilities.

The effectiveness of academic inclusive education module and generalization, among study group teachers gained 27.1% whereas in control, teachers are gained 1.50% of knowledge scores.

Study group shows the effectiveness of academic inclusive education module on school teachers in identification children with learning disabilities.

It reveals that identification of children with learning disabilities is found to be 8.45% in selected schools at Chennai. The male: female ratio in children with SLD is 8:1, indicating male preponderance.

Therefore, nursing educators / teachers should collaborate with policy makers of school education department to conduct special education program to enhance the knowledge about children with learning disabilities and other childhood problems.

Inclusive education module is an effective measure to improve the children with learning disabilities.

REFERENCES

1. Jitendra Kumar, Singh Suman, Identification and prevalence of learning disabled students, 2017 , International Journal of Scientific and Research Publications, Volume 7, Issue3, 317-319.
2. Bhavya, Bhavya.S, Chinnu.C.M, et al , The knowledge and attitude of teachers regarding specific learning disabilities among children; 2015, International Journal of Scientific and Research Publications, Volume 6, Issue1, 2636-2641.
3. Adebowale OF & Moye GP. Teachers' Knowledge of, and Attitude towards Learning Disabilities. Department of Educational Foundations and Counseling, Faculty of Education, Obafemi Awolowo University, Ile-Ife. Nigeria. The Online Educational Research Journal; 2013. www.oerj.org.
4. Howlin P. Special educational treatment. In: Rutter M, Taylore E, editors. Child and adolescent psychiatry. 4th ed. UK: Blackwell publishing company; 2002. p. 1128-47.
5. Sadaket Malik Bhalessa Doda. Learning disability in India, http: // www. Meri news. Com / article /learning-disability-in-india / 15781618. s html &cp).
6. Berkhan.O.1917.http://www.wikipedia.org.
7. Gavin Reid. Dyslexia- A practitioners hand book, 2016. P. 4-6.
8. Nair. M.K.C, Specific learning disorder. Available at: http: // www. dsm5. Org / Documents / Specific Learning Disorder Fact Sheet. Accessed March 8, 2016.
9. Sherman G. Can neuroscience help to demystify dyslexia, Schwats learning; 2007. http://world.schwablearning.org/articles
10. Biljana Pesova, Despina Sivevska, Jadranka Runceva; Early intervention and prevention of students with specific learning disabilities; 2014;Science direct, Procedia- Social and Behavioral Sciences, 149.
11. Snowling MJ, Muter V, Carroll J. Children at family risk of dyslexia: a follow-up in early adolescence. J Child Psychology Psychiatry. 2007;48:609-18.

12. King S, Laplante DP. The effects of prenatal maternal stress on children's cognitive development: Project Ice Storm. Stress. 2005; 8:35-45.
13. Angela I. Frank-Briggs, E. A. D. Alikor. Anxiety Disorder amongst Secondary School Children in an Urban City in Nigeria. Int J Biomed Sci. 2010;6:246-51.
14. Salles JF, Parente MAMP, Relacao entre Desempencho Infantil ern Languagerm, 2007; 37(132); 687- 709.
15. Ramya Manoharan 1 in 5 Chennai school kids have learning disabilities: Study, 2014. file:///G:/13.12.2018/1%20in%205%20Chennai%20schoolkids%20have%20learning%20disabilities_%20Study%20_%20Chennai%20News%20-%20Times%20of%20India.html.
16. Bhawana Singh1 ,Anshu. Impact of intervention on children with learning disabilities.2013. IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 11, Issue 1 (May. - Jun. 2013), PP 50-56.
17. Adebowale OF & Moye GP. Teachers' Knowledge of, and Attitude towards Learning Disabilities. Department of EducationalFoundations and Counselling,Faculty of Education , Obafemi Awolowo University, Ile-Ife. Nigeria. The Online Educational
18. Research Journal; 2013. www.oerj.org.
19. Indian Council of Medical Research. Learning Disability Awareness among Primary School Teachers,2011.

THE JOURNAL PRESENTATION:

1. IJERST – International Journal of Engineering Research and Science & Technology – (2015) – " A study to assess effectiveness of exam anxiety reduction intervention among adolescents in selected Government schools at Madurai.
2. Asia Pacific Journal of Research – Vol: I Issue XVCX, June 2019 - (IF: 6.58) -Effectiveness of psycho education of module on knowledge regarding early identification of children with learning disability among primary school teachers in selected schools at Chennai.
3. Asia Pacific Journal of Research – Vol: I Issue XVCX, June 2019 - (IF: 6.58) – Assess the effectiveness of education module on learning disabilities of children in raising knowledge and practice among teachers in selected schools at Chennai.